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10/584,635

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Yoshinobu Ebisawa

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2352 7590 07/21/2008  
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EXAMINER

HASAN, MOHAMMED A

ART UNIT

PAPER NUMBER

2873

MAIL DATE

DELIVERY MODE

07/21/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/584,635 | <b>Applicant(s)</b><br>EBISAWA, YOSHINOBU |  |
|                              | <b>Examiner</b><br>Mohammed Hasan    | <b>Art Unit</b><br>2873                   |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 is/are allowed.
- 6) ☒ Claim(s) 8-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/25/2006</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Priority***

1. Receipt of acknowledged of papers submitted under 35 U.S.C. 119 (a) – (d), which papers have placed in the file.

### **Oath/Declaration**

2. Oath and declaration filed on 6/26/2006 is accepted.

### **Information Disclosure Statement**

3. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 7/25/2006 have all been considered and made of record (note the attached copy of form PTO – 1449).

### ***Specification***

4. The abstract of the disclosure is objected to because “Abstract” should be less than 150 words. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-13 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Balakrishnan et al (6,115,028) in views of Hanado et al (6,050,896).

Regarding claim 8, Balakrishnan et al (refer to figures 2 and 3) a three-dimensional view-point measurement device (200) , comprising: two cameras, a first light source arranged near one of the two cameras, a second light source arranged near another of the two cameras, a control means for controlling ON/OFF of the first light source and the second light source and obtaining an image signal in sync with ON/OFF, and a calculation means ( as shown in figure 9) for extracting a pupil and corneal reflection from the obtained image signal column 4, lines 50- 67).

Balakrishnan et al discloses all of the claimed limitations except the two cameras.

However, Hanado et al discloses (refer to figure 3) two cameras (500,500').

It would have been obvious to one of ordinary skill in the art at the time invention was made to provide two cameras in to the Balakrishnan a three dimensional measurement device for the purpose of movement of the view can be removed as taught by Hanado et al (column 1, lines 60-65).

Regarding claim 9, Balakrishnan et al (refer to figures 2 and 3) a three-dimensional view-point measurement device (200) , comprising: two cameras, a first light source arranged near one of the two cameras, a second light source arranged near another of the two cameras, a control means for controlling ON/OFF of the first light

source and the second light source and obtaining an image signal in sync with ON/OFF, and a calculation means ( as shown in figure 9) for extracting a pupil and corneal reflection from the obtained image signal column 4, lines 50- 67).

Balakrishnan et al discloses all of the claimed limitations except the two cameras.

However, Hanado et al discloses (refer to figure 3) two cameras (500,500').

It would have been obvious to one of ordinary skill in the art at the time invention was made to provide two cameras in to the Balakrishnan a three dimensional measurement device for the purpose of movement of the view can be removed as taught by Hanado et al (column 1, lines 60-65).

Regarding claim 10, Balakrishnan et al (refer to figures 2 and 3) a three-dimensional view-point measurement device (200) , comprising: two cameras, a first light source arranged near one of the two cameras, a second light source arranged near another of the two cameras, a control means for controlling ON/OFF of the first light source and the second light source and obtaining an image signal in sync with ON/OFF, and a calculation means ( as shown in figure 9) for extracting a pupil and corneal reflection from the obtained image signal column 4, lines 50- 67).

Balakrishnan et al discloses all of the claimed limitations except the two cameras.

However, Hanado et al discloses (refer to figure 3) two cameras (500,500').

It would have been obvious to one of ordinary skill in the art at the time invention was made to provide two cameras in to the Balakrishnan a three dimensional

measurement device for the purpose of movement of the view can be removed as taught by Hanado et al (column 1, lines 60-65).

Regarding claim 11, Balakrishnan et al wherein the first light source and the second light source are configured to have an approximately identical emission wavelength ( as shown in figures 2 and 3).

Regarding claim 12, Balakrishnan et al wherein the first light source and the second light source are configured to have an approximately identical emission wavelength ( as shown in figure 2 and 3).

Regarding claim 13, Balakrishnan et al wherein the first light source and the second light source are configured to have an approximately identical emission wavelength (as shown in figure 2 and 3).

***Allowable Subject Matter***

6. Claims 1-7 are allowed.

7. The following is an examiner's statement of reasons for allowance: The prior art taken either singularly or in a combination fails to anticipate or fairly suggest the limitations of the independent claims, in such a manner that rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims 1 and 7 , which include, calculating an angle  $\theta$  between a line connecting a reference position or the second camera and the pupil center and a line-of-sight of the subject by the calculation means; and calculating a

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formula  $O = f(r^*)$  showing a relationship between  $r^*$  related to  $r$  and  $O$  based on the measured values and calculated value; and determining a line-of-sight, including the steps of: obtaining data on a coordinate point  $O'$  of the pupil position of the subject with the first camera by making the subject gaze at an unknown point  $G'$  in the coordinate system; obtaining data of the corneal reflection center, a size of vector  $r'$  from the reflection center to the pupil center  $P$ , and an inclination  $\phi'$  of the vector  $r'$  relative to the coordinate axis with the second camera; and calculating  $O' = f(r'^*)$  by using the relational formula to obtain the unknown point  $G'$  from the inclination  $\Phi$  and  $\theta'$ .

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammed Hasan whose telephone number is (571) 272-2331. The examiner can normally be reached on M-TH, 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky L Mack can be reached on (571) 272- 2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohammed Hasan/  
Primary Examiner, Art Unit 2873  
7/17/2008